Before the

Federal Communications Commission

Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 2, 21, 25	)	RM-8004
and 94 of the Commission's	)	
Rules to Accommodate Common	)	
Carrier and Private Op-Fixed	)	
Microwave Systems in Bands	)	
above 3 GHz	)	

TO: The Commission

STATEMENT IN OPPOSITION
TO
PETITION FOR RULEMAKING

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SUMMARY

Communications Transmission, Inc. ("CTI"), is one of the Commission's largest users of 6 GHz microwave radio spectrum assigned to the common carrier radio service. CTI has reviewed the petition for rulemaking filed in this proceeding by Alcatel Network Systems, Inc. ("ANS") and opposes its adoption for the following reasons.

a) The ANS petition is premature in that it seeks to establish rules applicable to the situation where 2 GHz microwave licensees are forced to migrate to higher frequency channels. However, such migration is not even contemplated by the FCC for at least a decade and even then 2 GHz licensee's could retain secondary status.

b) ANS proposed rules would through both (1) subchanneling and (2) eliminating the fence separating common carrier and private radio users create the very "balkanized and thus dysfunctional set of standards" the ANS petition states it seeks to avoid.

C) The rules would create a heavy burden on both applicants and the FCC. Applicants would have to frequency coordinate with a greatly expanded pool of users. The FCC would have to hold numerous comparative hearings to resolve mutually exclusivity between applications of common carrier and private radio users each of whom have very different public interest criteria to be weighed.

d) The rules would create a nightmare of interference and other technical problems.

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In the Matter of	)	
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Amendment of Part 2, 21, 25 and 94 of the Commission's Rules to Accommodate Common Carrier and Private Op-Fixed Microwave Systems in Bands above 3 GHz	)	RM-8004

TO: The Commission

STATEMENT IN OPPOSITION TO PETITION FOR RULEMAKING

Communications Transmission, Inc. ("CTI"), by its attorneys hereby respectfully submits its Statement in Opposition to the Petition for Rulemaking filed by Alcatel Network Systems, Inc. ("ANS") in the above-captioned proceeding. In opposition thereto, it is stated as follows:

I. **Preliminary Statement**

CTI is a major user of 6 GHz common carrier microwave spectrum, operating over 300 microwave stations from coast-to-coast.[1] CTI opposes ANS's petition for rulemaking on two grounds. First, even in its best light, the ANS petition is premature. ANS proposes present rule changes to overcome problems that a licensee of a 2 GHz microwave station may never face during the ten year time frame that the FCC proposes the modification of these 2 GHz stations to higher frequencies is to take place.

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[1] A map depicting the extent of the CTI system is attached hereto.

Second, if the rechannelization and eligibility modification changes to the FCC's rules that ANS proposes were to actually take place, those rules would create the very "balkanized, and thus dysfunctional, set of standards" that ANS declares its petition is designed to prevent.[2]

ANS as owner of Rockwell International Corporation's Network Transmission Systems Division - a major manufacturer of microwave radio equipment - has an obvious private interest in maximizing the number of microwave radios sold.[3] However, CTI - a major user of common carrier microwave spectrum - submits the issue before the FCC is not whether ANS's private interest should be fostered, but rather would ANS's proposal promote the public interest.

CTI believes that the ANS proposal would not promote the public interest because the proposal would so sub-channelize spectrum as to greatly limit the ability of common carriers, such as CTI, to expand their capacity to meet immediate customer needs and simultaneously it would vastly increase the risk that a degrading level of interference would be caused to already licensed microwave stations in controvertion of 47 U.S.C. § 316. Also, in

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[2] ANS Petition at p. 4.

[3] Were the ANS proposal to be supported by actual licensees of these 2 GHz channels there might be some merit to further consideration of ANS's proposal. If there were to be filed no meaningful supportive comments filed by 2 GHz users then that fact alone would support summary rejection of ANS's petition.

addition to imposing new burdens, on both common carrier and private radio licensees, the ANS proposed rules would create the horror of a massive number of FCC comparative hearings that would be necessary to decide whether the use of spectrum in a certain location is more in the public interest for a common carrier applicant than a private radio applicant proposing mutually exclusive uses.

In this regard it is significant to note that nowhere in ANS's petition is there to be found any reference to the rules prescribing efficient utilization of the common carrier microwave spectrum set forth in 47 C.F.R. § 21.710(c). No similar requirement applies to applicants for private radio microwave frequencies[4]. Thus, ANS's rechannelization proposal will pit as potential comparative hearing adversaries common carrier applicants who must show maximum spectrum utilization, vis a vis private radio applicants who must only show eligibility and a minimum need requirement.

II. ANS's Petition is Premature

(a) ANS's purported justification

ANS's basis for justification of its rulemaking proposal is to protect those subject to "involuntary migration off the 2 GHz band [which] would disrupt operations and could impede technological advances in

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[4] 47 C.F.R. § 94.15.

services and equipment."[5] ANS's proposed solution to this migration problem is a revolutionary transformation of the FCC common carrier and private radio microwave rules.[6] Thus, if the predicate on which ANS's petition is based is not a valid one - i.e., it seeks to remedy an ill that does not now exist and in the long run may never exist - that alone is reason for the FCC to reject ANS's petition. ANS can always file a new petition at a more appropriate time. The essence of rulemaking is to provide for orderly administration of the FCC's functions and as such rulemakings must have a present or reasonably foreseeable "basis and purpose". 5 U.S. C. § 553(c).

(b) ANS's purported justification is based more on speculation and surmise than fact.

There is nothing contained in the FCC's rulemaking proceeding in ET Docket No. 92-9[7] that even remotely suggests that the Commission proposes to cancel the licenses of those who use the 2 GHz spectrum allocated in either the private radio or common carrier microwave services. The FCC in dealing with a single licensee must adhere to the protective standards of Section 316 of the Communications

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[5] ANS Petition at p. 2.

[6] Lenin's classic comment about revolutionary transformations - "You can't make an omelet without first breaking a few eggs" - warns us of the potential dangers of such revolutionary transformations.

[7] Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, 7 FCC Rcd 1542 (1992) ("New Technologies").

Act, 47 U.S.C. § 316. In dealing with an entire class of licensees the Commission, through the rulemaking process, has the power to add or delete channels or change the eligibility requirements applicable thereto. However, in New Technologies the FCC does not propose to make such a change.

Common carriers licensed to use the 2 GHz microwave channels have licenses which do not expire until February 1, 2001. Nothing in New Technologies even remotely suggests that the FCC is contemplating an en masse revocation of those licenses. To the contrary, the FCC proposes to establish a transition plan which would assure present licensees of at least ten years of continuous ability to use these facilities. Even after that ten year period these licensees could continue to operate these stations as secondary eligibles or move to higher available channels.[8]

Thus, the "involuntary migration" premise of ANS's petition simply does not exist. No migration either voluntary or involuntary of present licensees is contemplated by the FCC for at least ten years. Then no migration at all is required unless a primary eligible files an application which would displace the 2 GHz secondarily eligible licensee.

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[8] Under the FCC's prior rules, rural radio station licensees operated as secondary users to common carrier mobile operations (RCC's) for decades without undue impediment.

Even in that case the Commission in New Technologies protects the present 2 GHz licensee by removing from those licensees the requirement of meeting the prerequisite that they show greater utilization of the bandwidth of the higher frequencies prescribed by 47 C.F.R. § 21.710(c). Thus, ANS's predicate that if the FCC's proposed rules are adopted it would cause massive "involuntary migration" of the 2 GHz licensees is not true as to the present rulemaking proposal in New Technologies and may never be true ten years from now.

(c) Present frequency availability

At best ANS pays lip service to the FCC's study[9] which shows that presently only in a few instances are there not a sufficient number of higher frequency channels available to meet all needs. Even as a secondary user the 2 GHz licensee is protected because the primary user applicant who files for a 2 GHz channel after the year 2001 is obligated to first make a showing that no other channel is available before the secondary licensee can be displaced.

The EOT Report at p. 28 found that "it appears that there is generally sufficient capacity in the 4 GHz and 6 GHz bands to relocate the existing 2 GHz fixed microwave operations to higher frequency bands." The EOT Report further discusses the potential impact of "alternative

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[9] Creating New Technology Bands for Emerging Telecommunications Technology, FCC/OET TS92-1 (January 1992) ("EOT Report").

media", such as fiber optics on the need for the present 2 GHz channels. Fiber optics in but a few short years has grown from Cheetah to the King Kong of the telecommunications industry. A half-decade ago fiber optic carriers boasted that shortly they would be able to carry twelve DS-3's on a single fiber, with a repeater required but once every mile. It is thus ironic to note that it was ANS, the proponent of this revolutionary transformation rulemaking, that had an exhibit at the recent industry Supercom convention in Chicago, at which exhibit, ANS demonstrated fiber optic electronics capable of transmitting 10 G-bits (192 DS-3's) of information over 150 km (90 miles) without the necessity to use a single repeater.

ANS's proposed rulemaking would introduce into the present highly volatile world of microwave telecommunications the spector of the rechannelization ANS proposes without any recognition of the impact of such new technologies - not even considering even the larger King Kong's of spectrum capacity in fiber that may exist ten years from now. Such a revolutionary proposal as set forth by ANS introduces the element of uncertainty to those planning to build new microwave systems or expand their present systems to meet present needs. Such uncertainty drives away potential lenders such as banks, who finance the utilization of such construction. Such lenders frequently require an opinion of counsel to support the conclusion that

the lender operates in a relatively stable environment. With the subdivision upon subdivision of channels ANS proposes no one could reasonably render such an opinion. With the ANS proposed rules adopted a common carrier could be limited in trying to meet a customer's future needs by the unforeseeable needs of a potential private radio user and vice versa.

(d) The unnecessary burden the ANS petition would place on the users and the FCC.

In the world of common carrier microwave radio there has long existed a well organized system of prior frequency coordination. In its petition ANS would co-mingle common carrier and private radio users eligible to use the same spectrum. Adoption of this proposal would in one instant render useless the data base used for common carrier frequency coordination that took decades to perfect. It would take many months, if not some years to update this data base to add the private radio users. ANS at p. 8 of its proposed rules concedes such frequency coordination would require that the common carrier industry and the private radio industry "develop specific criteria for coordination of all users in these bands". In light of the uncertainties already existing in the telecommunications world it is hardly surprising that ANS does not address the issue of where the millions of dollars necessary to combine and update both user data bases - as modified by the new specific criteria for coordinations - for this purpose is to

be found.

So too, ANS does not address where the funds are to be found for the FCC to be able to resolve a situation where a common carrier applicant and a private radio applicant - unable to resolve a potential mutual exclusivity by frequency coordination - file applications which must be resolved by a comparative hearing. Each has separate needs. Thus, while the Communications Act (47 U.S.C. § 309(i)(2)) permits a paper hearing, the Act still precludes awarding the permit by using the lottery process. Removal of the fence separating common carrier eligibility to use this spectrum, from private user eligibility will create an avalanche of such conflicting applications. Therefore, the ANS petition could, if adopted, impose a heavy financial burden on both the applicants and the FCC. Such a burden is not only unnecessary to achieve the goal sought by New Technologies, but may even be counterproductive.

III. The Proposed Rules Would Create a Nightmare of Interference and Other Technical Problems.

The basic spectrum used by common carriers for long haul microwave transmission is the eight pair of channels occupying the 30 MHz between 5.925 and 6.425 GHz. The standard of system reliability a carrier, such as CTI, contractually guarantees to provide to its customers is 99.98% or less than one hour of outage a year. If the carrier cannot meet that standard then the customer is free to move to an alternative media, such as fiber. In the

highly competitive common carrier world, where customers have been taught to expect "you can hear a pin drop" as the standard of quality, the ANS proposal is a nightmare that, if adopted, could produce catastrophic results both to carriers such as CTI and their customers. For example, customers of CTI such as the Department of Defense not only expect, but rely on that high quality of service CTI presently provides, e.g. to distribute national defense information whether of a day-to-day or of a critical degree of importance.

The ANS proposal presents potential interference problems that, even with frequency coordination, will produce harmonic interference conditions that will be extremely difficult, if not impossible to overcome. With the limited class of common carriers eligible to use the 30 MHz of 6 GHz microwave channels, frequency coordination has been a highly successful method of preventing interference problems before they could occur. Even in this highly controlled environment interference occasionally occurs due to harmonic or reflection problems that could not have been reasonably anticipated. It is a very highly complex and expensive process to find the source of interference as it is not necessarily caused by the "new boy on the block."

In the present manner that the FCC Rule's operate, in order to be eligible for a 6 GHz channel, a common carrier has to make a showing that its application meets the loading

requirements prescribed by 47 C.F.R. § 21.710(c). This permits the carrier to evolve from initially providing on one radio one DS-3 to its customers to three DS-3's on the same radio with little additional expenditure. Such evolution permits the carrier to initiate service to its customers at low competitive rates, anticipating additional revenue by having the ability to expand capacity at little additional cost. Additionally, to achieve reliability such heavy capital expenditure items as space diversity or a "one for N" backup radio are utilized. The ANS proposed rules would destroy this ability to expand to meet growing needs of the carrier's customers by reducing channel availability by subchannelization of the 30 MHz to one DS-3 or less.

Additionally, the ability of the carrier to grow as it serves greater market demand is largely eliminated by placing a common carrier in competition with a private radio applicant for the same spectrum, even if the mutually exclusivisity is one caused by an adjacent channel rather that a co-channel problem or even one of harmonic interference. This conflict could only be resolved by the comparative hearing process at great expense to both the parties and the FCC with substantial delay in providing service resulting from the adjudicatory process, no matter how simplified.

ANS's proposed introduction of a number of low capacity channels now to be available to private radio licensees

carved out of this 6 GHz common carrier band would greatly increase the problem of terrain scatter and frequency congestion, particularly in the major metropolitan areas. This is a serious problem now under controlled conditions and would be a far far greater problem, if not a insurmountable one under the ANS proposal. The additional cost required to protect and maintain the integrity of the existing common carrier network would skyrocket.[10] While interference from these low capacity 6 GHz channel users would only "knock out" part of the carrier's operation it would still make the whole common carrier service provided useless to its customers. The carrier, at great expense, would have to add test equipment and staff to guard against such degrading interference on a 24 hour a day basis and search for the offender out of the morass of possible offenders. If the FCC's data base is not absolutely up to date that offender would be impossible to find.

The cost of frequency coordination would increase under the ANS proposal in an almost geometric proportion to the increase in the number of small capacity sub-channel users. ANS's proposal speaks only in broad generalities of the two industries establishing standards which will prevent such interference. However, ANS does not present one scintilla

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[10] As distinguished from a broadcast station where interference effects only one station, should interference be created at any point on a three thousand mile microwave backbone than the spine of that background is broken and the other 300 plus stations are also destroyed.

of evidence as to whether such coordination standards can even be achieved or at what cost. Cost increases in the world of competition borne only by the microwave carrier and not by the competitive fiber carrier threaten the very lifeblood of a system that has served the public well for decades.

IV. CONCLUSION

To even find that there is some degree of validity to ANS's Petition for Rulemaking[11] the Commission must accept in blind faith the validity of ANS's assumptions and ignore the FCC own statements in New Technologies. In New Technologies the FCC decided to preserve the right of existing licensees to utilizing 2 GHz spectrum for a minimum of a decade. The ANS petition assumes: (1) that there will be an immediate involuntary migration of 2 GHz licensees, (2) therefore a complete restructuring is necessary and (3) the world in which both common carrier and private radio microwave licensees operate must be rend asunder in order to meet that possible in futuro need. The ANS Petition must assume also that the FCC will ignore the OET Report which shows there is an abundance of channels in the higher bands to which the present 2 GHz licensees may migrate without problem.

By not even mentioning the impact on the ability of

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[11] Such a finding being a prerequisite to the adoption of a Petition for Rulemaking (47 C.F.R. § 1.407).

present licensees to expand to meet their growth needs utilizing existing equipment capable of such expansion (i.e. going from 1 DS-3 to three DS-3's) the ANS petition assumes there would be no adverse impact. ANS assumes no interference problems would occur if the proposed rules are adopted because presumably the industry will create new data bases to compute such interference at no cost, with no delay. ANS assumes that there is need for all the subchannels it proposes be covered out of presently allotted spectrum. In-deed the assumptions, contained in this petition are so numerous as to have a certain Alice in Wonderland rationale.

CTI respectfully submits ANS's petition does not meet the threshold standards required by 47 C.F.R. § 1.401(c) and therefore should be rejected.

Respectfully submitted,
COMMUNICATIONS TRANSMISSION, INC.

By: _____
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July 1, 1992

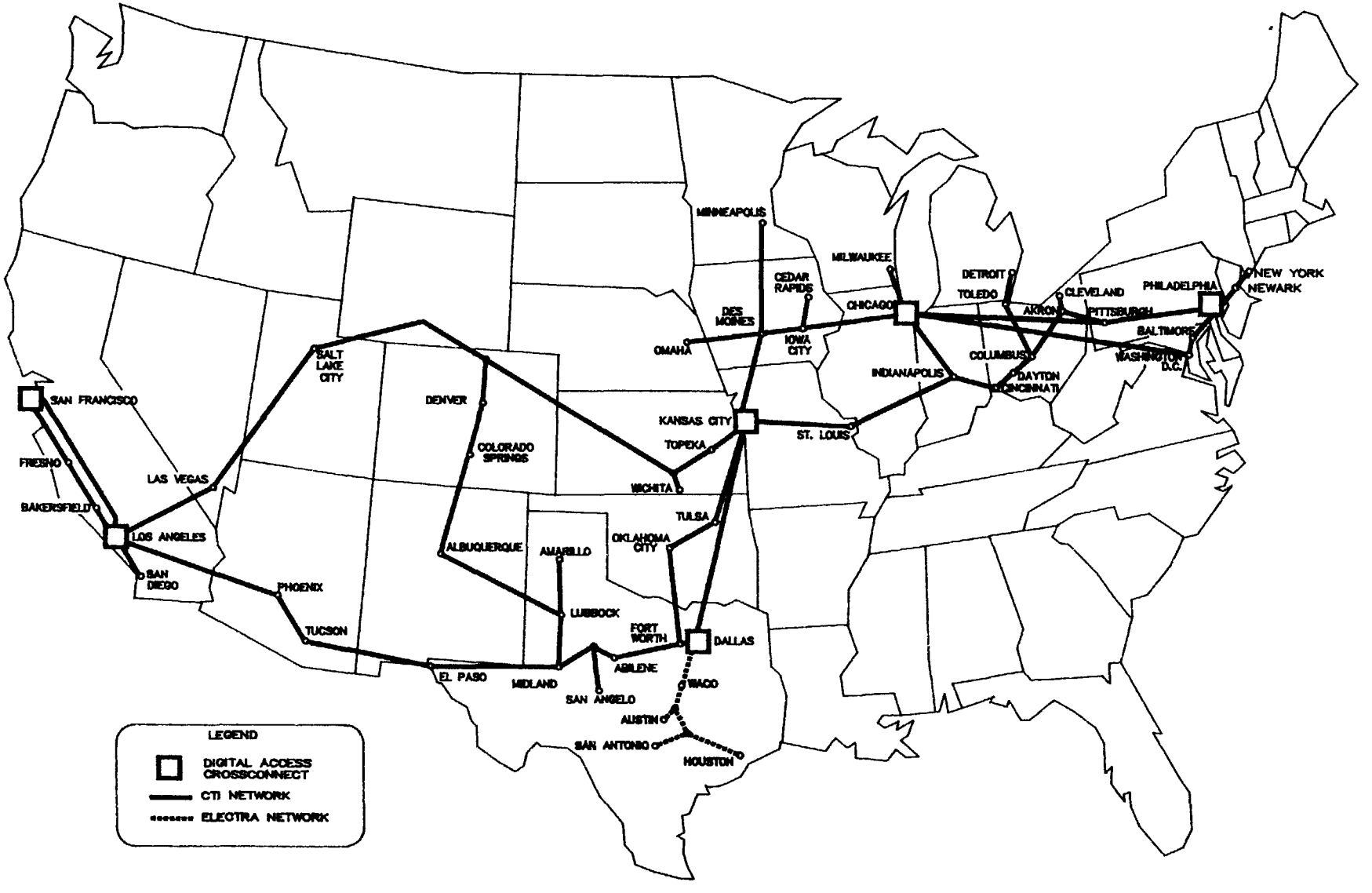
C E R T I F I C A T E

I, Kenneth Hinther, a Vice-President of Communications Transmission, Inc., declare under penalty of perjury that I have reviewed the foregoing Statement in Opposition to the Petition for Rulemaking and the facts contained therein are true and correct to the best of my knowledge and belief.

Executed on June 30, 1992.

Kenneth Hinther

COMMUNICATIONS TRANSMISSION, INC.
SYSTEM ROUTE MAP



USAB 8/8/88

CERTIFICATE OF SERVICE

I, Shellyn C. Bowling, a secretary in the law firm of Smithwick & Belendiuk, P.C., do hereby certify that on this 1st day of July, 1992, copies of the foregoing were mailed First-Class, Postage Pre-Paid, to the following:

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